A decorative graphic on the left side of the slide, consisting of a grid of squares in shades of gray, red, and dark blue, arranged in a stepped pattern.

# Missing dimensions of well-being and respect for individual preferences: How affected is equivalent income?

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New Approaches to Defining and Measuring Poverty in a Growing World  
*Special IARIW-World Bank Conference*  
Washington DC, 7<sup>th</sup> November 2019

Measuring well-being beyond GDP:  
The Stiglitz, Sen and Fitoussi commission (2009)

Measuring well-being capturing non-income dimensions


How?

1.  
Taking into account a wide range of dimensions that individuals consider relevant for a good life



2.  
Respecting individual preferences

With the purpose of policy orientation



Measuring  
well-being  
capturing  
non-income  
dimensions


## How?

Decancq, Fleurbaey,  
and Schokkaert.  
2015a. Inequality,  
income and well-being.  
Handbook of Income  
Distribution, Vol. 2A.  
eds. A. Atkinson, and  
F. Bourguignon, 67-  
140. New York:  
Elsevier

1. Capability  
approach

2. Subjective  
well-being

3. Equivalent  
income



Measuring  
well-being  
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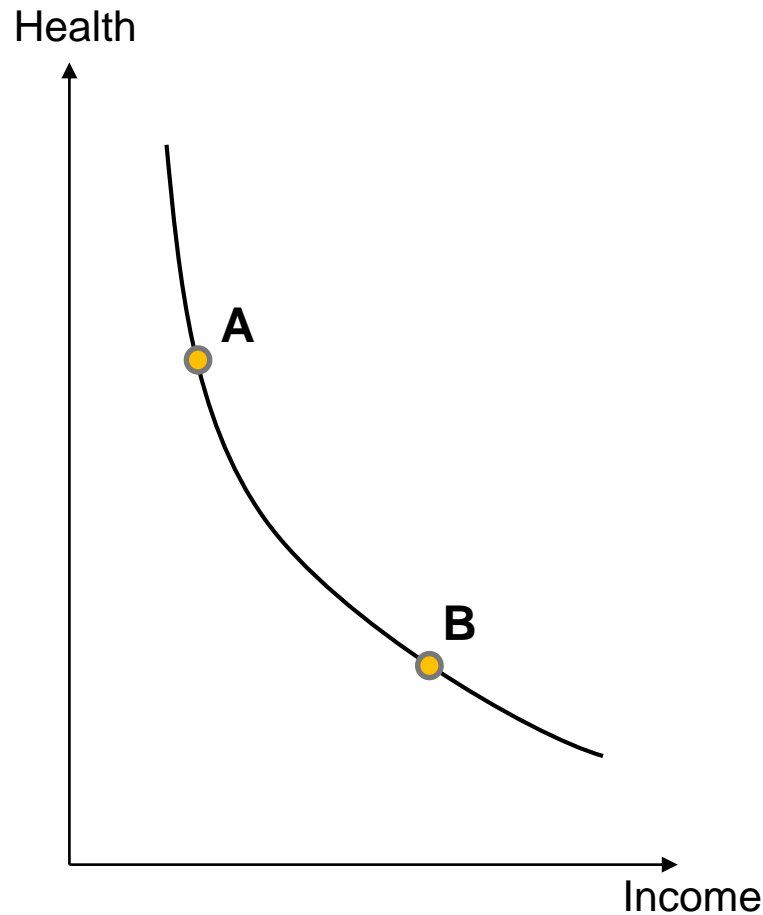
1. Capability  
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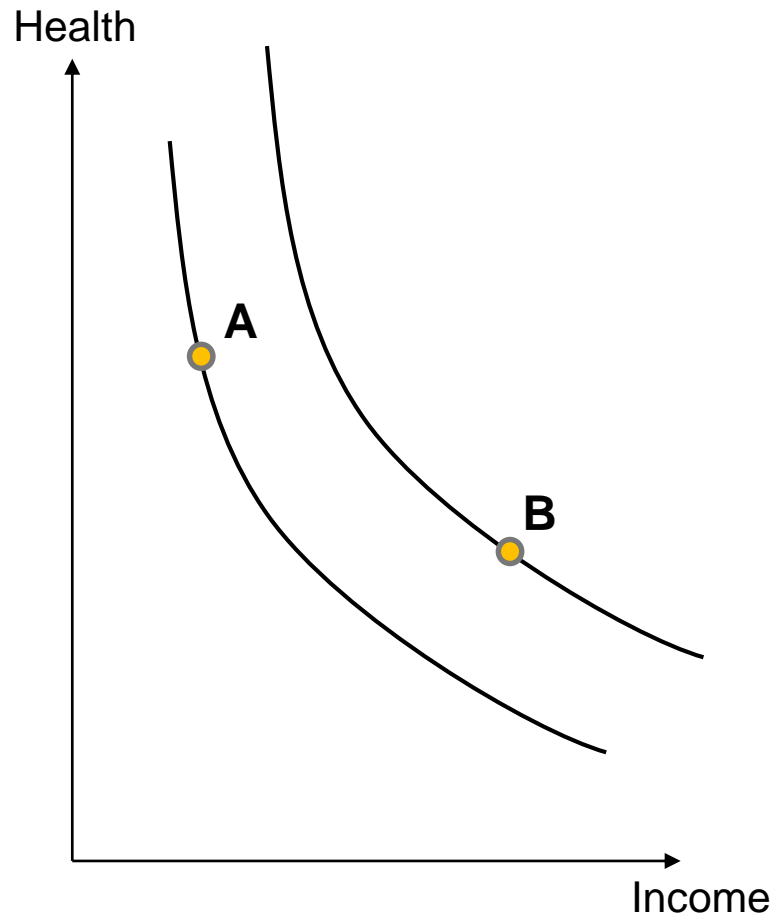
# Equivalent income in the literature:

Decancq, K. and Schokkaert, E., 2016.  
Beyond GDP: Using equivalent incomes  
to measure well-being in Europe. *Social  
indicators research*, 126(1), pp.21-55

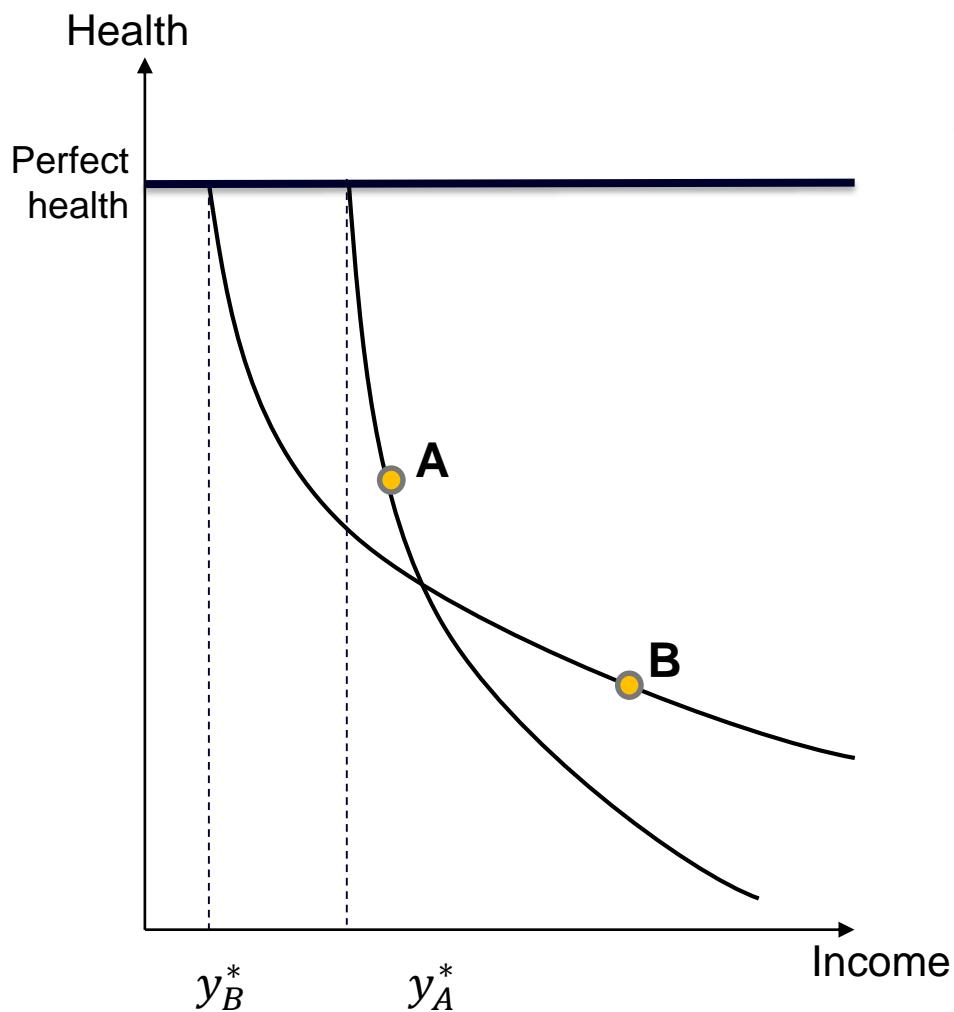


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Decancq, K. and Schokkaert, E., 2016. Beyond GDP: Using equivalent incomes to measure well-being in Europe. Social indicators research, 126(1), pp.21-55



# Equivalent income is defined as:

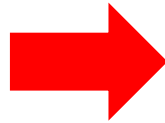
Decancq, K. and Schokkaert, E., 2016.  
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The hypothetical level of income that combined with the best possible value of the other non-income dimensions, would place individuals in a situation that they find equally good as their actual situation



# This paper:

We use rich data from Ecuador, developed following the missing dimensions analysis from OPHI



Implement an equivalent income approach to measure well-being

Traditional measures of equivalent income use basic life dimensions

- Income
- Housing quality
- Health/Illness
- Unemployment

We extend this to other possible missing dimensions

- What happens with the ranking provided by the two measures?
- How comparable are they?
- How much are we missing when these dimensions are not included?



# The remaining of the talk:

1. Motivation
2. Literature background
3. Empirical approach
4. Results
5. Caveats and concluding remarks



# 3. Empirical approach



# Empirical approach:

We follow the literature that derives preference information based on life satisfaction regressions:

$$S_i = \alpha + \pi \ln(y_i) + \beta W_i + \gamma W_i Z_i + \delta Z_i + \xi_i,$$

Where:

$S_i$ : Live satisfaction [1,4] Very dissatisfied to very satisfied

$y_i$  : Income

$W_i$ : All other non-income well-being dimensions

$Z_i$ : Subpopulation groups across which preferences might differ systematically

$\xi_i$ : Error term

# Empirical approach:

We know that we observe the equivalent income ( $y_i^*$ ), in presence of the reference values  $\bar{W}$ , then:

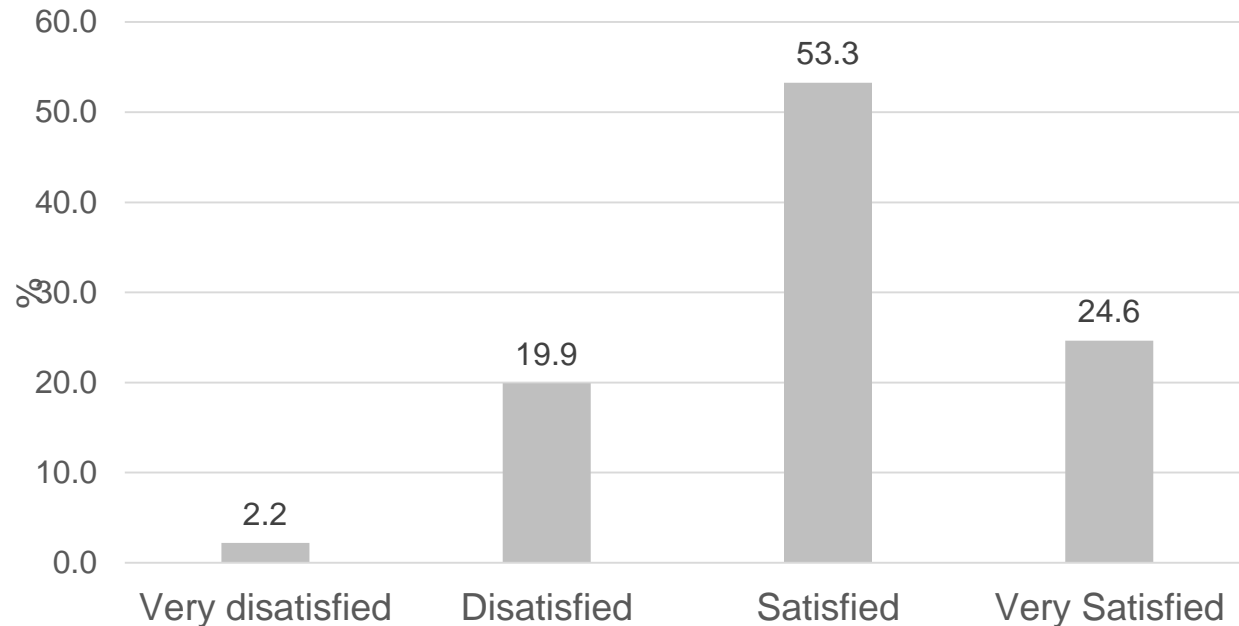
$$\begin{aligned} S_i &= \alpha + \pi \ln(y_i) + (\beta + \gamma'Z_i)W_i + \delta Z_i + \xi_i \\ &= \alpha + \pi \ln(y_i^*) + (\beta + \gamma'Z_i)\bar{W}_i + \delta Z_i + \xi_i \end{aligned}$$

$$y_i^* = y_i \exp \left[ \left( \frac{\beta + \gamma'Z_i}{\pi} \right) (W_i - \bar{W}_i) \right]$$

# The Ecuadorean survey:

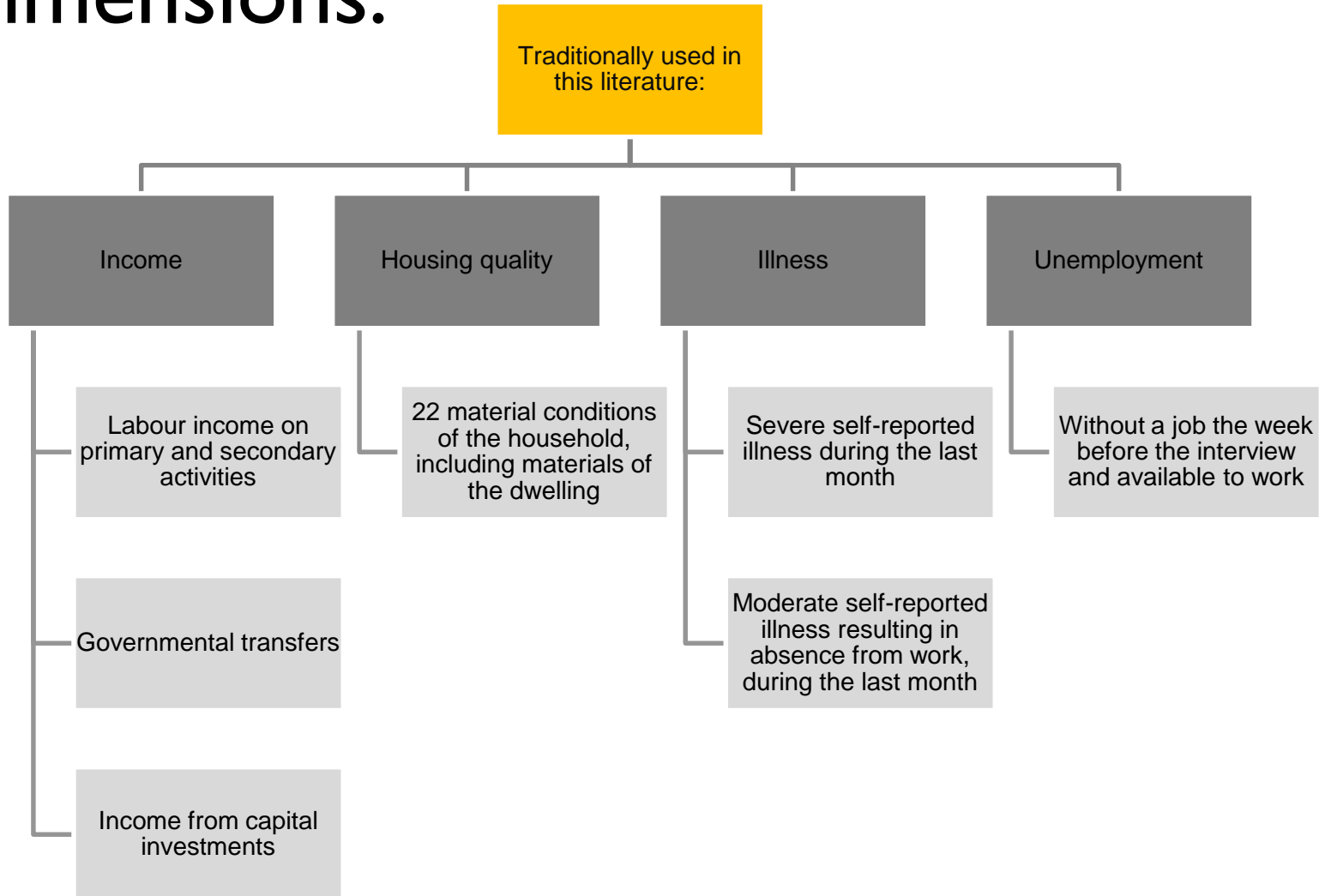
Is a probabilistic survey, made of 23,535 individuals living in 6,342 households, representative at the national level and geographical sample domain.

Overall, how satisfied are you with your life?



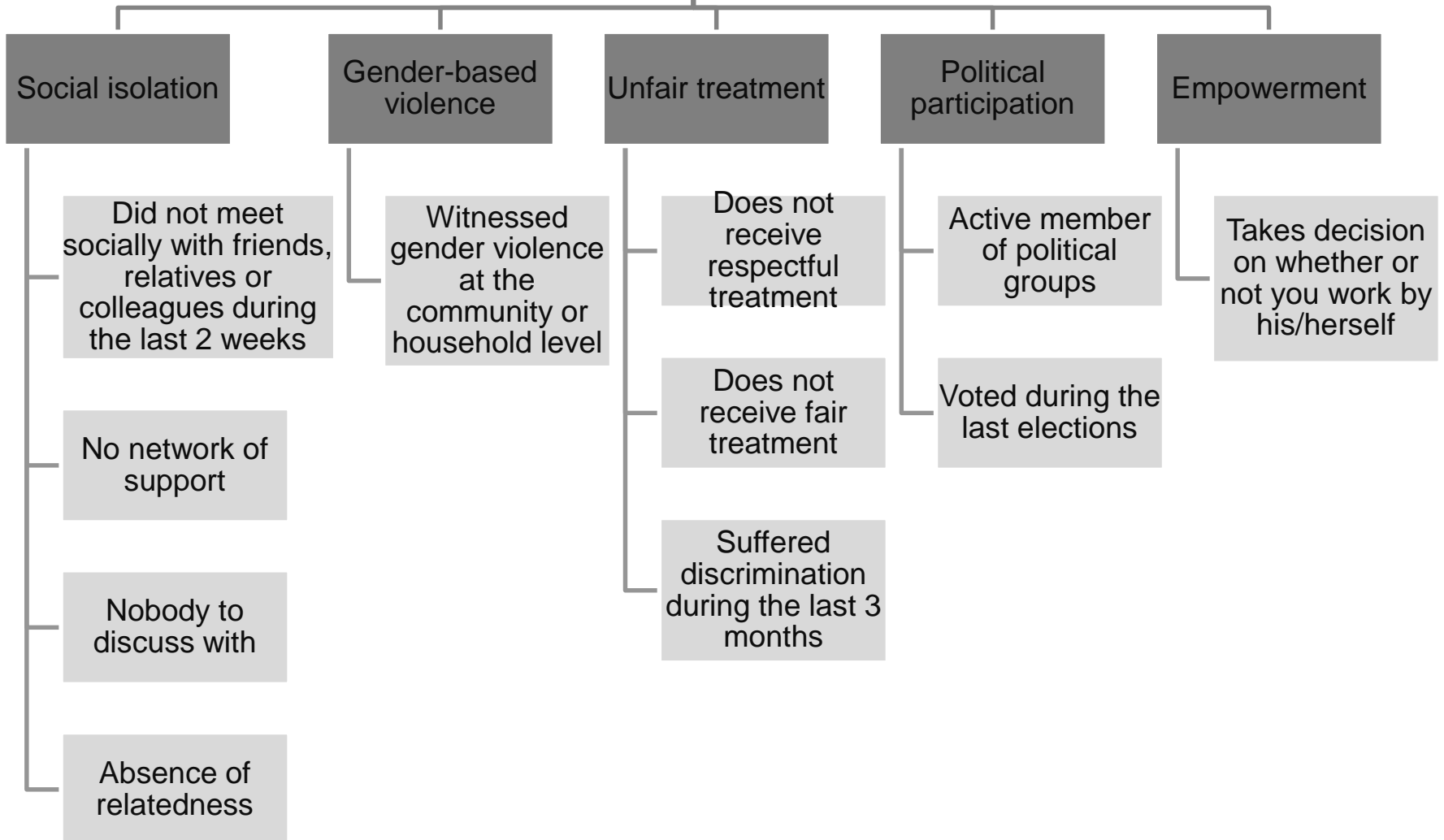
N=5,201  
Household  
heads (18-59  
years old)  
with information  
on life  
satisfaction

# Life Dimensions:



# Life Dimensions:

Missing dimensions







# 4. Results

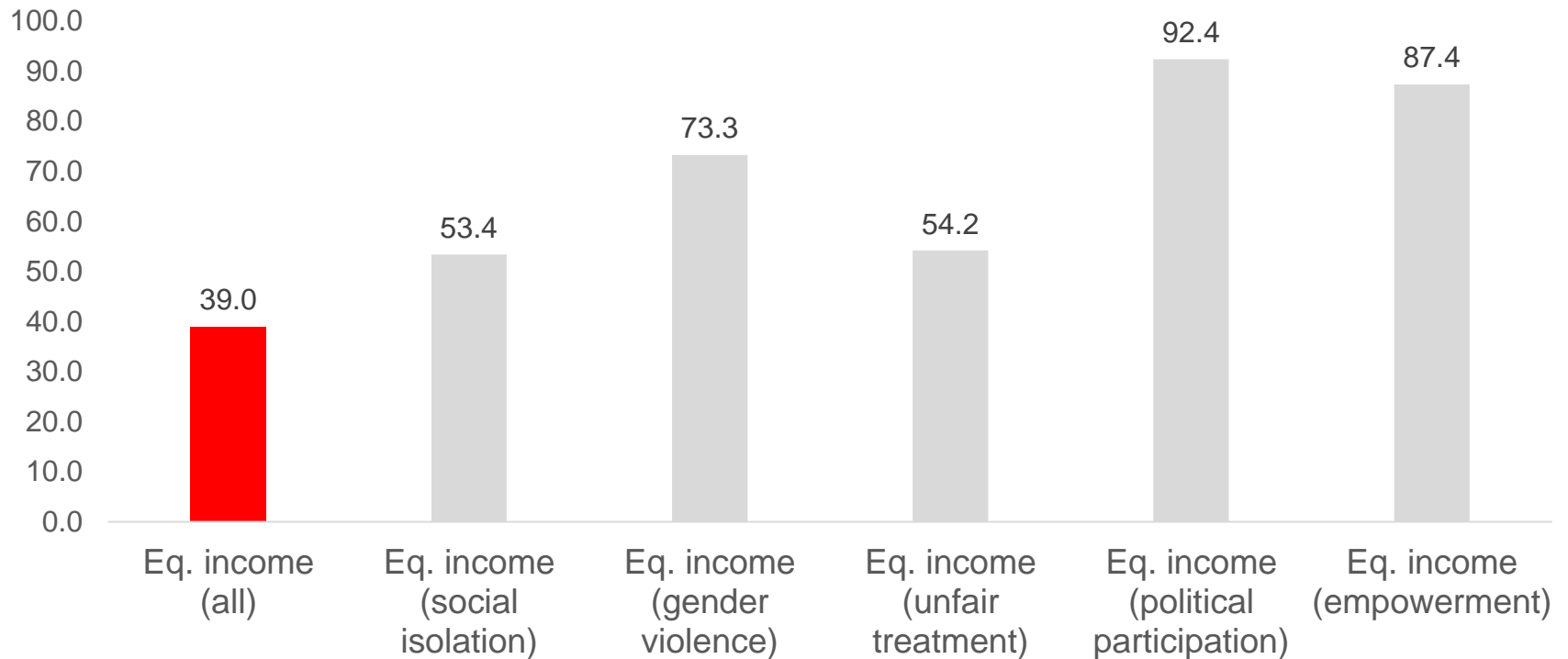
# Life satisfaction (ordered probit)

	Model 1		Model 2	
Disposable income (log)	0.0388*	(0.0212)	0.0467**	(0.0214)
Housing quality	1.246***	(0.141)	1.173***	(0.148)
Health	-0.0305	(0.116)	-0.00619	(0.117)
Unemployment	-0.550**	(0.241)	-0.490**	(0.243)
Social isolation	-	-	-0.115***	(0.0284)
Gender violence	-	-	-0.113**	(0.0453)
Unfair treatment	-	-	-0.295***	(0.0500)
Political participation	-	-	0.0748	(0.0695)
Empowerment	-	-	0.0829	(0.0562)
Housing x female	-0.414*	(0.218)	-0.469**	(0.225)
Health x female	-0.228*	(0.133)	-0.243*	(0.135)
Health x higher educ.	0.425*	(0.227)	0.420*	(0.231)
Unempl. x ethnicity	0.994***	(0.372)	0.997***	(0.375)
Isolation x ethnicity	-	-	-0.105**	(0.0485)
Unfair treat. x age over 50	-	-	0.163**	(0.0707)
Pol. Partic. x ethnicity	-	-	-0.273**	(0.126)
N. observations	5,508		5,508	
R2	0.0704		0.0818	

Note: Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Gender, age, education, marital status, ethnicity, rural area, non-reciprocity, distrust, lack of autonomy and lack of life purpose, as additive controls

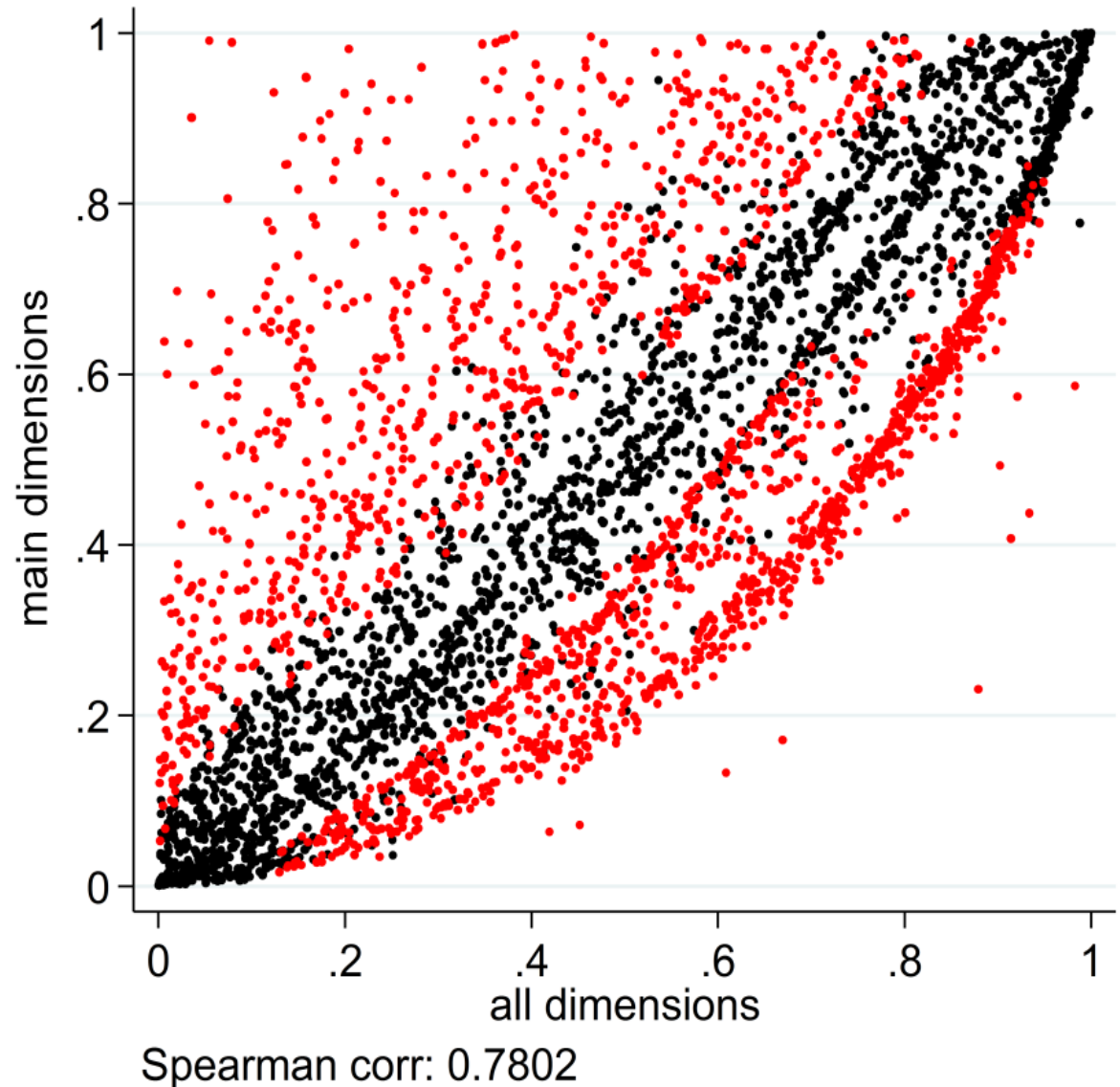
# Percentage of overlap between individuals identified as the most deprived in the basic equivalent income measure against different extended versions



# Re-ranking:

(Basic vs extended  
eq. income)

Ranks are statistically  
different in 44% of  
cases (red dots)  
based on  
bootstrapped  
confidence intervals  
for welfare rankings





# 5. Caveats and concluding remarks



# Limitations:

- Given the cross-sectional nature of our data we are unable to account for individual heterogeneity that could be captured through the use of a panel data
  - However, we control for a set of variables related to personality traits such as non-reciprocity, distrust, lack of autonomy and lack of life purpose.



# Conclusions and policy implications:

- Unfair treatment, gender violence, and social isolation are significant determinants of life satisfaction and therefore important well-being dimensions when measuring equivalent income.
- Equivalent income based on a limited set of variables could be portraying a biased picture of the overall society, because of the omission of dimensions of well-being that are important for individuals.
  - Only 39% overlap of individuals considered the most deprived across measures.
  - The rank between both measures is statistically different in 44% of the cases.
- More and better information that allow to include these dimensions in the calculation of equivalent income measures is required.



**Thank you!**